U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

JUN 14 2004

Mr. George A. Kerchner
Manager
CapAnalysis
1299 Pennsylvania Ave., N.W.
Washington, DC 20004

Ref No.: 04-0107

Dear Mr. Kerchner:

This is in response to your letter of April 26, 2004 requesting clarification of provisions for lithium batteries and cells in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180).

According to the information you provided, STMicroelectronic's, lithium primary cell contains not more than 1.0 gram of lithium content and meets the testing requirements in the United Nation Manual of Tests and Criteria, Part III, sub-section 38.3. Your questions have been paraphrased and answered below:

Q1: May lithium primary cells provided to STMicroelectronics by Rayovac and Panasonic qualify for the exception in section 173.185 of the HMR?

A1: The answer is yes. In accordance with § 173.185 (b) cells and batteries are not subject to the requirements of the HMR if they meet all of the following requirements:

(1) Each cell with a liquid cathode may contain not more than 0.5 g of lithium content. Each cell with a solid cathode may contain not more than 1.0 g of lithium content. Each lithium ion cell may contain not more than 1.5 g of equivalent lithium content.

(2) Each battery with a liquid cathode may contain an aggregate quantity of not more than 1.0 g of lithium content. Each battery with a solid cathode may contain an aggregate quantity of not more than 2.0 g of lithium content. Each lithium-ion battery may contain an aggregate quantity of not more than 8.0 grams of equivalent lithium content.

(3) Each cell or battery containing a liquid cathode must be hermetically sealed.

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(4) Cells and batteries must be packed in such a way so as to prevent short circuits and must be packed in strong packagings, except when installed in equipment.

(5) If when fully charged, the aggregate lithium content of the anodes in a liquid cathode battery is more than 0.5 g, or the aggregate lithium content of the anodes in a solid cathode battery is more than 1.0 g, then the battery may not contain a liquid or gas that is a hazardous material according to this subchapter unless the liquid or gas, if free, would be completely absorbed or neutralized by other materials in the battery.

Q2: May lithium primary cells provided to STMicroelectronics by Rayovac and Panasonic qualify for the exception contained in Special Provision A45 of the International Civil Aviation Organization (ICAO) Technical Instructions and Special Provision 188 of the International Maritime Dangerous Goods (IMDG) Code?

A1: The answer is yes.

Q2: Are the exceptions for lithium primary cells contained in Special Provision A45 of the International Civil Aviation Organization (ICAO) Technical Instructions consistent with Special Provision A45 in the International Air Transport Association (IATA) Dangerous Goods Regulation?

A1: The answer is yes.

I hope this information is helpful. Please contact us if you require additional assistance

Sincerely,

John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards

CAP ANALYSIS

George A. Kerchner
Manager
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Batteries
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April 26, 2004

By Facsimile

Mr. Edward Mazzullo
Director of Hazardous Materials Standards
Research and Special Programs Administration
U.S. Department of Transportation
400 7th Street, SW
Washington, DC 20590

Re: Compliance with U.S. and International Lithium Battery Transportation Regulations

Dear Mr. Mazzullo:

I am writing on behalf of STMicroelectronics, Inc. with regard to the exceptions for lithium primary cells and batteries contained in the U.S. hazardous materials regulations (HMR), ICAO Technical Instructions, IATA Dangerous Goods Regulations, and IMDG Code. I am seeking written confirmation from the U.S. Department of Transportation's Research and Special Programs Administration (RSPA) that the cells used in STMicroelectronics' products, as described herein, are not subject to the U.S. and international hazardous materials (dangerous goods) transportation regulations.

With regard to the IATA Dangerous Goods Regulations, I understand that the U.S. DOT does not "authorize" the use of these Regulations. However, I am simply requesting the U.S. DOT confirm that the exceptions for lithium cells and batteries contained in the IATA Dangerous Goods Regulations are consistent with those in the ICAO Technical Instructions.

Background

STMicroelectronics is one of the world's largest semiconductor manufacturers. Several of its products utilize three very small lithium primary cells for back-up power. These cells are recognized by the following model numbers: BR1225, BR1632, and BR2032. Each cell contains no more than 1.0 gram of lithium content and is of the type that meets the testing requirements in the *UN Manual of Tests and Criteria, Part III, sub-section 38.3.*

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1. U.S. Hazardous Materials Regulations – It is my understanding that under the current HMR, a lithium primary cell with a solid cathode that contains no more than 1.0 g of lithium content is excepted from the regulations and thus not subject to the requirements of the HMR provided the cell is packed in such a way so as to prevent short circuits. This exception appears to apply to shipments of lithium cells or lithium cells contained in or packed with equipment.

2. ICAO Technical Instructions, IATA Dangerous Goods Regulations, and IMDG Code - I also understand that a lithium primary cell that contains no more than 1.0 g of lithium content is not subject to the requirements of the ICAO Technical Instructions (and IATA Dangerous Goods Regulations) or IMDG Code provided it is of the type that meets the testing requirements in the *UN Manual of Tests and Criteria, Part III, sub-section 38.3*, packed in such a way so as to prevent short circuits, and, except when installed in equipment, meet certain packaging, marking, and shipping paper requirements if more than 24 cells are contained in a package.

The lithium primary cells used in STMicroelectronics' products currently are manufactured by Rayovac and Panasonic. STMicroelectronics has received written confirmation from both manufacturers that the cells they provide (BR1225, BR1632, and BR2032) meet the testing requirements in the *UN Manual of Tests and Criteria, Part III, sub-section 38.3* and contain no more than 1.0 gram of lithium content. I should note that when STMicroelectronics incorporates these cells into their products they do not modify or compromise their integrity in any way that could materially affect the UN test results.

Request for Confirmation

Based on the information contained herein, please confirm, in writing, that the following statements are accurate:

- The BR1225, BR1632 and BR2032 cells provided to STMicroelectronics by Rayovac and Panasonic qualify for the exception contained in the U.S. HMR and thus are not subject to the requirements of the regulations provided they are packed in such a way so as to prevent short circuits. This exception also applies to cells shipped individually or contained in or packed with equipment;

- The BR1225, BR1632 and BR2032 cells provided to STMicroelectronics by Rayovac and Panasonic qualify for the exception contained in Special Provision A45 of the ICAO Technical Instructions and Special Provision 188 of the IMDG Code provided they are packed in such a way so as to prevent short circuits, and, except when installed in equipment, meet certain packaging, marking, and shipping paper requirements if more than 24 cells are contained in a package; and

- The exceptions for lithium primary cells contained in Special Provision A45 of the ICAO Technical Instructions are consistent with Special Provision A45 in the IATA Dangerous Goods Regulation.

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Thank you for taking the time to consider these important issues. I can be reached at (202) 383-7163 if you have any questions.

Sincerely,

George A. Kerchner

George A. Kerchner